

Claims

1. Apparatus for estimating the weight of an occupant of a vehicle seat supported by first and second laterally separated floor brackets, the apparatus comprising:

5 at least a first torsion bar extending between said first and second floor brackets and rotatably supported thereby;

 first and second laterally separated linkage arms coupling a frame of said seat to said first torsion bar for imparting a torque to first torsion bar in relation to said occupant weight; and

10 a first sensor for measuring the torsion bar torque between said linkage arms to provide an indication of said occupant weight.

2. The apparatus of Claim 1, wherein said linkage arms are rigidly coupled to said first torsion bar and rotatably coupled to said seat frame.

3. The apparatus of Claim 1, wherein said first linkage arm is disposed forward of said first torsion bar and said second linkage arm is disposed rearward of said first torsion bar so that the torsion bar torque between said linkage arms is indicative of occupant weight applied to said linkage arms.

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4. The apparatus of Claim 1, wherein said first sensor is a magneto-elastic torque sensor.

5. The apparatus of Claim 1, including first and second torsion bars disposed at front and rear portions of said seat.

6. The apparatus of Claim 1, further comprising:

a second torsion bar extending between said first and second floor brackets and rotatably supported thereby;

5 third and fourth laterally separated linkage arms coupling said seat frame to said second torsion bar for imparting a torque to second torsion bar in relation to said occupant weight;

a second sensor for measuring the torsion bar torque between said third and fourth linkage arms; and

10 a control unit responsive to said first and second sensors for estimating said occupant weight based on a sum of the torsion bar torques measured by said first and second sensors.